

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Module 11** Simplifying Algebraic Expressions  
with Polynomials

**Lesson 1** Applying Rules of Exponents



**additional  
practice**

**Simplify.**

- |   |  |
|---|--|
| 1. $4^2 \cdot 4^5$ _____                            | 2. $3^{-4} \cdot 2^8$ _____  |
| 3. $3^{-2} \cdot 3^6$ _____                         | 4. $(r^2s^4)(rs^3)$ _____  |
| 5. $x^0y^0z^{-3}$ _____                             | 6. $y^3z^{-4}$ _____   |
| 7. $\frac{4^3}{4^5}$ _____                          | 8. $\frac{7^8}{7^5}$ _____   |
| 9. $(xy)^3$ _____                                   | 10. $(3a^4b^3)^2$ _____  |
| 11. $2a(ab^3c^4)^3$ _____                           | 12. $(2a)^3(b^3c^4)^2$ _____   |
| 13. $(0.1a^4b^{-6})^2(3a^4b^{14})$ _____            | 14. $(3^2x^2y^4)^{-2}$ _____   |
| 15. $\left(\frac{y}{3}\right)^{-4}$ _____           | 16. $\frac{b^{-4}}{b^2}$ _____   |
| 17. $(-3m^2n^4)^3(mn^3)^2$ _____                    | 18. $\left(-\frac{2}{3}a\right)^3$ _____                                       |
| 19. $(0.2mn^4)^3$ _____                             | 20. $\left(\frac{1}{2}a^3b^{-3}\right)\left(\frac{4}{5}a^{-2}b^8\right)$ _____ |
| 21. $\frac{(8a^3b^{-1})^2}{(8^4a^4b^5)^{-2}}$ _____ | 22. $\frac{(4^3a^3b^5c^9)^0}{4^2a^{-3}b^4}$ _____                              |

